

Listing of Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1-8. (Cancelled)

9. (Currently Amended) A composition for use in reverse transcription of a nucleic acid molecule, said composition comprising one or more polypeptides having reverse transcriptase activity, Mg²⁺ or salt thereof and dNTPs in excess of said Mg²⁺ or a salt thereof, thereby preventing, reducing, substantially reducing, or eliminating degradation of nucleic acid templates during nucleic acid synthesis.

10. (Cancelled)

11. (Currently Amended) The composition of claim 9, wherein said polypeptides are reduced or substantially reduced or lacking in RNase H activity relative to the corresponding wild-type or RNase H⁺ polypeptide.

12. (Currently Amended) The composition of claim 9, wherein said polypeptides are selected from the group comprising M-MLV reverse transcriptase, ASV reverse transcriptase, HIV reverse transcriptase, Avian Sarcoma-Leukosis Virus (ASLV) reverse transcriptase, Rous Sarcoma Virus (RSV) reverse transcriptase, Avian Myeloblastosis Virus (AMV) reverse transcriptase, Avian Erythroblastosis Virus (AEV) Helper Virus MCAV reverse transcriptase, Avian Myelocytomatosis Virus MC29 Helper Virus MCAV reverse transcriptase, Avian Reticuloendotheliosis Virus (REV-T) Helper Virus REVA reverse transcriptase, Avian Sarcoma Virus UR2 Helper Virus UR2AV reverse transcriptase, Avian Sarcoma Virus Y73 Helper Virus YAV reverse transcriptase, Rous Associated Virus (RAV) reverse transcriptase, and

Myeloblastosis Associated Virus (MAV) reverse transcriptase and ~~derivatives, variants, or~~
~~fragments having reverse transcriptase activity,~~ or mutants thereof.

13. (Currently Amended) A method for reverse transcription of one or more nucleic acid molecules comprising:

(a) mixing one or more RNA templates, one or more polypeptides having reverse transcriptase activity, Mg²⁺ or salt thereof and dNTPs in excess of said Mg²⁺ or a salt thereof; and

(b) incubating mixture of (a) under conditions sufficient to make one or more first DNA molecules complementary to all or a portion of said one or more RNA templates.

14. (Previously Presented) The method of claim 13, wherein said RNA template is a messenger RNA molecule, a poly A⁺ RNA molecule, or a population of mRNA molecules.

15. (Previously Presented) The method of claim 13, wherein said mixture is incubated at temperatures ranging from 40°C to 75°C.

16. (Previously Presented) The method of claim 13, said method further comprising incubating said one or more first DNA molecules under conditions sufficient to make one or more second DNA molecules complementary to all or a portion of said one or more first DNA molecules.

17. (Previously Presented) A cDNA molecule made according to the method of claim 13.

18. (Cancelled)

19. (Currently Amended) A method for amplifying one or more nucleic acid molecules, said method comprising:

(a) mixing one or more RNA templates, one or more polypeptides having reverse transcriptase activity, one or more DNA polymerases, Mg²⁺ or salt thereof and dNTPs in excess of said Mg²⁺ or a salt thereof; and

(b) incubating mixture of (a) under conditions sufficient to amplify one or more nucleic acid molecules complementary to all or a portion of said one or more RNA templates.

20. (Previously Presented) A nucleic acid molecule amplified according to the method of claim 19.

21. (Currently Amended) A kit for use in reverse transcription, or amplification of a nucleic acid molecule, said kit comprising a reverse transcriptase, Mg²⁺ or salt thereof and dNTPs in excess of said Mg²⁺ or a salt thereof.

22-25. (Cancelled)

26. (Currently Amended) The composition of claim 9, wherein said dNTPs are in excess of said Mg²⁺ or a salt thereof by 1mM.